

### REMARKS/ARGUMENTS

In response to the Office Action dated July 13, Claims 1-125 remain in this application. Claim 16 has been amended.

Claims 3-9, 12-14, 16 and 17 were objected to.

Claims 1, 2, 10, 11, 15, 18, 19, 20-23, 101, 103 and 116 were rejected under 35 USC 103(a).

Applicants gratefully acknowledge the allowability of Claims 24-100, 102, and 104-125 as indicated in paragraph 5 of the Disposition of Claims in the Office Action Summary. Applicants further acknowledge the indication of the allowability of Claims 3-9, 12-14, 16 and 17.

#### **Claim Rejections - 35 U.S.C. § 103**

**First Rejection:** Claims 1, 2, 10, 11, 15, 18, 19, 20, 101 and 116 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al. (US Pat. No. 6,245,190) in view of Kaji et al. (US Pat. No. 5,432,315).

Claim 1 includes the following limitation: "said overhead electrode having a reactance that forms a resonance with the plasma at an electrode-plasma resonant frequency with is at or near said frequency of said generator". Claims 1,2,10,11,15,18,19,20,101 and 116 were rejected over Masuda in view of Kaji. According to the rejection, Masuda was cited as teaching the feature corresponding to the above-quoted language of Claim 1, while Kaji was cited only to show the insulating layer on the overhead electrode.

Thus, the rejection is valid only if Masuda discloses the feature of the above-quoted claim language. This language requires that the overhead electrode have a certain reactance.

The undersigned has searched the disclosure of Masuda in vain for any mention of the reactance (or any other characteristic) of Masuda's overhead electrode. There is no mention of the overhead electrode reactance or impedance in Masuda. Nor is there any mention of such a feature in connection with a plasma-electrode resonance near the RF generator frequency. Therefore, Masuda appears to be completely unrelated to applicant's Claim 1.

It is therefore surprising that the Examiner states that "Masuda et al teach . . . overhead electrode forming resonance with the plasma". It is surmised here that the Examiner's reference to "resonance" arises from Masuda's mention of electron cyclotron resonance in the bulk plasma and in the plasma sheath. This is the ONLY mention of "resonance" in Masuda. If this is the material in Masuda upon which the Examiner relies, then the rejection cannot stand. This is because electron cyclotron resonance does not depend upon the reactance of the overhead electrode, but is instead determined by the RF frequency and the magnetic field strength (and, of course, the electron charge and mass) as is well-known. None of this is affected by the overhead electrode reactance or impedance. Therefore, the rejection is based upon a reference (Masuda) having nothing to do with Claim 1.

Accordingly, reconsideration and withdrawal of the rejection of Claim 1 is respectfully requested based upon the claim language, "said overhead electrode having a reactance that forms a resonance with the plasma at an

electrode-plasma resonant frequency with is at or near said frequency of said generator".

Claims 2,10,11,15,18,19,20, and 116 contain the claim limitation quoted above and are therefore patentable upon the same basis as Claim 1. Therefore, reconsideration of the rejection of these claims is also requested.

Claim 101 is distinguished because Masuda does not disclose the feature of "said impedance match element having a hollow center conductor connected to said RF power generator and coupled to said overhead electrode." This language corresponds to the fixed RF tuning stub disclosed in applicant's specification. Since Masuda fails to suggest such a feature, reconsideration of the rejection of Claim 101 is respectfully requested.

**Second Rejection:** Claims 21-23 and 103 are rejected under 35 USC 103(a) as being unpatentable over Masuda et al. in view of Kaji et al. and further in view of Shamouilian et al. (US Pat. No. 6,095,084).

Claims 21-23 were rejected over the same references discussed above in further view of Shamoulian. Claims 21-23 depend from Claim 1 and are therefore distinguished upon the same basis. Claim 103 cites a coaxial tuning stub which is not disclosed in the cited references, and therefore Claim 103 is patentable. Accordingly, reconsideration and withdrawal of the rejection of Claims 21-23 and 103 is respectfully requested.

### SUMMARY

In view of the foregoing remarks, it is felt that the objection to the claims and the rejection of the claims under 35 USC 103(a) have been overcome. Therefore, withdrawal of this rejection is respectfully requested and allowance of the application is earnestly solicited.

If, However, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, the Examiner should telephone Robert Wallace at (805) 644-4035 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,



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